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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,696	04/01/2004	An Hien Lam	200313894-1	9710

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EXAMINER	
CHANDRAN, BIJU INDIRA	
ART UNIT	**PAPER NUMBER**
2835	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/816,696	LAM, AN HIEN
	Examiner	Art Unit
	Biju Chandran	2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/1/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12,14-18 and 20-24* is/are rejected.

7)☒ Claim(s) *4, 13, 19 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/1/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-3, 5-7, 11, 12, 14, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by El-Batal et al. (PGPub US 2005/0057909 A1).
    - Regarding claim 1, El-Batal et al. disclose a system comprising: an enclosure (102); and a plane assembly (104, 106) mounted within the enclosure and configured to connect with multiple pluggable devices (108, 110), the plane assembly comprising: a first plane portion (104) having multiple connectors; and at least a second plane portion (106) having multiple connectors, the second plane portion being offset from

the first plane portion to define a gap (figure 1) that is dimensioned to promote airflow through the enclosure (paragraph 0028).

- Regarding claim 2, El-Batal et al. further discloses that the plane portions are elevationally offset within the enclosure (figure 4).
- Regarding claim 3, El-Batal et al. further discloses that the plane portions are longitudinally offset within the enclosure (figure 1).

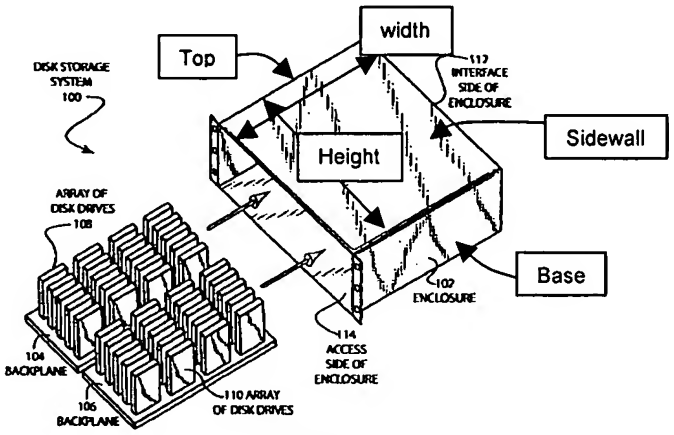

FIGURE 1

- Regarding claim 5, El-Batal et al. further discloses that the enclosure has a height and said plane portions have respective heights, and wherein the collective height of the plane portions is about equal to the enclosure height (see attached figure).
- Regarding claim 6, El-Batal et al. further discloses that the enclosure has a height and said plane portions have respective heights, and wherein the collective height of the plane portions is about equal to the enclosure height, and wherein the plane portion heights are about equal to one another (see attached figure).

- Regarding claim 7, El-Batal et al. further discloses that the plane assembly comprises a back plane assembly (104, 106).
- Regarding claim 11, El-Batal et al. further discloses that the plane assembly comprises only the first and second plane portions (figure 1).
- Regarding claim 12, El-Batal et al. discloses a system comprising an enclosure (102) comprising a base, a top and a pair of sidewalls (marked in attached figure) joined with and extending between the base and top to define an interior volume within which multiple pluggable devices (110) can be received, the enclosure having a front and a back (figure 4); a first back plane portion (104) mounted within the enclosure and comprising multiple connectors; and a second back plane portion (106) mounted within the enclosure and comprising multiple connectors, the second back plane portion being spaced apart from the first back plane portion effective to define a gap that allows air entering from the front of the enclosure to escape at the back of the enclosure (paragraph 0028).
- Regarding claim 14, El-Batal et al. further discloses that the enclosure has a height between the base and the top, and the first and second back plane portions have respective heights, wherein the collective height of the back plane portions is about equal to the enclosure height.

- Regarding claim 24, El-Batal et al. discloses a method (page 5, claim 11) comprising: providing an enclosure (102); and mounting a plane assembly within the enclosure by mounting a first plane portion (104) having multiple connectors within the enclosure and mounting a second plane portion (106) having multiple connectors within the enclosure, the second plane portion being offset from the first plane portion to define a gap that is dimensioned to promote airflow through the enclosure (paragraph 0028), the plane assembly being configured to connect with multiple pluggable devices (108, 110).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over El-Batal et al. El-Batal et al. disclose all the limitation of claim 12. Although figure 1 of El-Batal et al. indicates that the width of the gap region is equal to or greater than the height of the enclosure (dimensions marked in attached figure), they do not explicitly disclose that gap width between the first and second back plane portions is no less than about one half of the enclosure height. If it is not already so, It would have been obvious to one of ordinary

skill in the art at the time the invention was made to make the width of the gap between the first and second plane portions not less than one-half the height of the enclosure or any value that will suit the purpose.

3. Claims 8, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over El-Batal et al. in view of Wells (US Patent 4,237,546).

- Regarding claim 8, El-Batal et al. disclose all the limitations of claim 1, but do not disclose that the plane assembly comprises a mid-plane assembly. Wells discloses a plane assembly system where the plane assembly comprises a mid-plane (figure 2). At the time of the invention, it would have been an obvious matter to one of ordinary skill in the art to incorporate the mid-plane assembly as taught by Wells in the system disclosed by El-Batal et al. to increase the number of pluggable devices that can be mounted on the plane assembly.
- Regarding claim 18, El-Batal et al. discloses a system comprising an enclosure (102); two plane portions configured to connect with multiple pluggable devices, mounted within the enclosure, with the two plane portions offset from each other. El-Batal et al. does not disclose that these plane portions are mid-plane portions having multiple connectors on both sides. Wells discloses a mid-plane assembly configured to connect with multiple pluggable devices, the mid-plane assembly comprising: a first mid-plane portion (100A) having multiple connectors on both sides

thereof; and at least a second mid-plane portion (100B) having multiple connectors on both sides thereof, the second mid-plane portion being offset from the first mid-plane portion. At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the mid-plane assembly taught by Wells in the system taught by El-Batal et al. to increase the number of pluggable devices that can be mounted on the plane assembly.

- Regarding claim 20, the system disclosed by El-Batal et al., as modified by Wells discloses all the limitations of claim 18, and further disclose that the enclosure has a height and said mid-plane portions have respective heights, and wherein the collective height of the mid-plane portions is about equal to the enclosure height.

4. Claims 9, 10, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over El-Batal et al., in view of Garnett et al. (PGPub US 2003/0030977 A1).

   - Regarding claim 9, El-Batal et al. discloses all the limitations of claim 1, but does not disclose that the pluggable devices comprise blades. Garnett et al. disclose a system with multiple pluggable devices comprising blades ('BS', figure 1, 8A). At the time of the invention, it would have been an obvious matter to one of ordinary skill in the art to incorporate any pluggable device, including the blades taught by Garnett

et al. in the system disclosed by El-Batal et al. to cool the blades effectively.

- Regarding claim 10, Garnett et al. further disclose that the multiple pluggable devices comprise blade servers.
- Regarding claim 16, El-Batal et al. discloses all the limitations of claim 12, but does not disclose that the pluggable devices comprise blades. Garnett et al. disclose a system with multiple pluggable devices comprising blades ('BS', figure 1, 8A). At the time of the invention, it would have been an obvious matter to one of ordinary skill in the art to incorporate any pluggable device, including the blades taught by Garnett et al. in the system disclosed by El-Batal et al. to cool the blades effectively.
- Regarding claim 17, Garnett et al. further disclose that the multiple pluggable devices comprise blade servers.

5. Claim 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boone (US Patent 6,449,150 B1) in view of El-Batal et al.
   - Regarding claim 21, Boone disclose an apparatus (26) comprising: a first grippable end; a second end spaced from the first end; a body that extends between the first and second end; the second end composing a terminus having a pair of offset extensions (52), individual offset extensions comprising electrical and mechanical structures that are

configured to be received by a connector pair comprising individual connectors. Boone does not explicitly disclose that they are mounted on spaced-apart plane portions. El-Batal et al. disclose spaced apart plane portions (104, 106), which are spaced apart to define a gap between the individual plane portions to accommodate airflow (paragraph 0028) through an enclosure in which the plane portions are mounted. At the time of the invention it would have been an obvious matter to one of ordinary skill in the art to incorporate the spaced apart plane portions as taught by El-Batal et al. with the apparatus disclosed by Boone to make use of the increased air flow path provided, to increase cooling efficiency.

- Regarding claim 22, El-Batal et al. further disclose that the offset extensions are configured to be received by a connector pair of a back-plane.

6. Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boone in view of El-Batal et al., and further in view of Wells. Boone as modified by El-Batal et al. disclose all the limitations of claim 21, but does not disclose a pair of mid-planes. Wells disclose spaced apart mid-plane portions (100A, 100B). At the time of the invention it would have been an obvious matter to one of ordinary skill in the art to incorporate the spaced apart mid-plane portions as taught by Wells with the apparatus disclosed by Boone and modified by El-Batal et al. to eliminate the necessity of using separate means of connection between the spaced apart portions.

Allowable Subject Matter

7. Claims 4, 13, 19 and 25 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
   - Claim 4, 13, 19 and 25 are allowable over prior art of record because the prior art does not teach or suggest two plane portions that are elevationally and longitudinally offset within the enclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Biju Chandran whose telephone number is (571) 272-5953. The examiner can normally be reached on 8AM - 5PM. Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LYNN FEILD
SUPERVISORY PATENT EXAMINER
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